

Claims

1. A surface treated product that moves relatively in a fluid, characterized in that a surface of the surface treated product has continuous dimples, each dimple having a diameter of 10 to 2500 μm and a depth of 50 μm or less.
2. The surface treated product according to claim 1, wherein said dimple is of an indefinite shape.
3. The surface treated product according to claim 1, wherein the surface treated product is a casting molded by casting.
4. The surface treated product according to claim 1, wherein the surface treated product has a hollow portion formed by a wall portion, and said surface is a surface of the wall portion defining said hollow portion.
5. The surface treated product according to claim 1, wherein the surface treated product is made of cast iron or a light alloy for casting as a principal material.
6. The surface treated product according to claim 5, wherein the surface treated product is any one part selected from an automotive air intake system parts group consisting of an intake manifold, turbine housing, compressor cover, cylinder head, and air duct.
7. A surface treated product that moves relatively in a fluid, characterized in that a surface of the surface treated product has continuous dimples, each dimple having a diameter of 10 to 2500 μm and a depth of 50 μm or less, and the surface has surface roughness R_a of 10 μm or less.

8. A surface treated product that moves relatively in a fluid, characterized in that the surface treated product is a casting molded by casting and has a hollow portion formed by a wall portion, and the surface of the wall portion defining the hollow portion has surface roughness Ra of 10 μm or less.

9. A surface treatment method for treating a surface of a surface treated product that moves relatively in a fluid, characterized in that the surface treatment material containing at least a polyhedral or spherical material having a diameter of 5 mm or more is caused to collide with said surface.

10. The surface treatment method according to claim 9, wherein said surface treatment material is made of two or more types of materials.

11. The surface treatment method according to claim 9, wherein said collision is caused by oscillation of either or both of the surface treated product and said surface treatment material.

12. The surface treatment method according to claim 9, wherein said surface treated product has a hollow portion formed by a wall portion, and a surface to be treated of said surface treated product is a surface of the wall portion defining said hollow portion, and

said surface treatment material is put in said hollow portion to oscillate said surface treated product and cause a collision.

13. The surface treatment method according to claim 12, wherein a percentage by volume of said surface treatment

material put in said hollow portion to said hollow portion is about 5% to 70%.

14. The surface treatment method according to claim 12, wherein a frequency of said oscillation is about 5 to 20 Hz.

5 15. The surface treatment method according to claim 12, wherein a stroke of said oscillation is about 30 to 200 mm.

16. The surface treatment method according to claim 12, wherein total oscillation time of said oscillation is about 3 to 120 minutes.

10 17. The surface treatment method according to claim 9, wherein a principal material forming said surface treated product is cast iron or a light alloy for casting.

18. The surface treatment method according to claim 17, wherein at least a part of said surface treatment material
15 is made of a metal material.

19. A surface treatment apparatus for artificially treating a surface of an object, comprising:

fixing means for fixing said object in which a surface treatment material is put in an enclosed space having said
20 surface as a forming surface in an arbitrary direction; and

oscillating means for oscillating said fixing means.

20. The surface treatment apparatus according to claim 19, wherein said oscillating means has a prime mover and a crank connected to said prime mover.